

REMARKS

Examiner has rejected claims 1-4, 12, 19, 20, 28, and 33. By present amendments, claims 1, 8, 13, 17, 19, 25-27, 29, and 33 are amended to better convey the metes and bounds of the invention. Claims 5, 6, 21, and 22 have been canceled; no claims have been added. In light of the amendments and remarks below, reconsideration and allowance of all claims are respectfully requested.

Specification

Applicants have amended the specification to respond to Examiner's objection by inserting the word "than" into the abstract of the disclosure. A replacement paragraph in marked up form is included with this Response.

Claim Rejections under 35 U.S.C. § 102

Examiner has rejected claims 1-4, 12, 19, 20, 28, and 33 under 35 U.S.C. 102(e) as being anticipated by U.S. patent application by Barlow et al. (Pub. No. 2003/0183113). Examiner has stated:

"Barlow et al. discloses, with respect to independent claims 1 and 19, an improved shaped charge comprising: (a) a charge case 14; (b) a main load 28 within the charge case; (c) a layer of a polymer/polymer mixture 70 positioned between the main load and a liner 50; and (d) a booster 24 coupling the main load to an ignition source; wherein the polymer/polymer mixture undergoes a decomposition reaction to produce a fracturing pressure event (perforating a formation). With respect to the depending claims, the reference teaches the limitations as claimed, including the polymer including a metal (Al), and an ignition speed controller. The reference further discloses a method that includes a method of fracturing a formation comprising the steps of: (a) lowering an improved shaped charge into a well to a depth adjacent to the formation; wherein the shaped charge has a charge case, a main load within the charge case; and a layer of a polymer/polymer mixture positioned between the main load and a liner; and (b) detonating the shaped charge."

This rejection is respectfully traversed. Claims 1-4, 12, 19, 20, 28, and 33, as amended, are novel despite the teachings of Barlow et al. which does not teach or suggest the limitation of using a metal oxide to make the polymer/polymer mixture layer.

Such rejection under §102 for anticipation requires that the single reference teach each and every element or step of the rejected claim. *See, Atlas Powder v. E.I. DuPont*, 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984). A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Examiner's rejection under §102 fails to meet this test.

Claims 1 and 19 have been amended in this response to include the following limitation: “wherein the polymer/polymer mixture comprises a metal oxide.” This limitation is supported in the second to last sentence of the first paragraph of the summary of the invention on page 7 of the original disclosure wherein it states: “The term polymer mixture includes a polymer and a metal or a metal and metal oxide combination.” The Examiner has indicated that this limitation is allowable subject matter in allowing original claims 5, 6, 13, 21, 22, and 29. Therefore, Applicants respectfully request the Examiner to withdraw this rejection based on 35 U.S.C. § 102 and allow claims 1-4, 12, 19, 20, 28, and 33 as amended.

Rejection under 35 U.S.C. § 103

Examiner has asked whether the co-inventors Haney and Wesson, have co-owned this application. In response, the Applicants declare that they have commonly owned the invention at all materials times during all phases of the inventive process and patent application process.

Examiner has also rejected claims 14 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Barlow et al. alone. Examiner has stated:

“the [sic] reference discloses the apparatus as stated above. However, the reference fails to teach the charge case comprising zinc or steel as called for in the claims. The reference does teach the charge case comprising metal, but does not specify the type. It is an obvious expedient to use a well-known type of metal material, such as zinc or steel, to encase a shaped charge. Therefore, it would have been considered obvious to one of ordinary skill in the art at the time the invention was made to have provided a charge case made of zinc or steel in order to encase an explosive charge.”

This rejection is respectfully traversed. It is well established that as a part Examiner’s burden to establish a prima facie case of obviousness, Examiner is required to show that the referenced teachings “appear to have suggested the claim subject matter.” *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143, 147 (C.C.P.A. 1976). As stated by the Federal Circuit, “Obviousness cannot be established by combining teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.” *In re Geiger*, 815 F.2d 683, 2 USPQ 2d 1276, 1278 (Fed. Cir.1987).

In this case, claims 14 and 15 depend from claim 1, and therefore have the novel limitation of currently amended claim 1. In particular, claim 1 has the novel limitation of using a metal oxide to make the polymer/polymer mixture layer. Examiner has allowed the subject matter of this limitation in reference to amended claim 1 (original claim 5). Thus, claims 14 and 15 are non-obvious over Barlow et al. and a rejection under 35 U.S.C. § 103(a) based on Barlow

et al. is improper. Applicants respectfully request Examiner to withdraw this rejection and allow claims 14 and 15.

CONCLUSION

Applicants have also read the prior art cited, but not relied on, by Examiner (e.g. Kneisl, 5 U.S. patent application having publication number 2003/0183113 A1). Applicants believe their invention is distinguishable over the teachings in this patent.

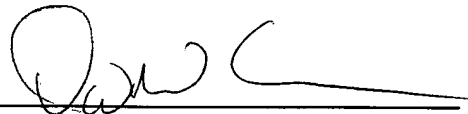
In light of the amendments and the arguments made by Applicants above, Applicants submit that all existing claims are now in a condition for allowance. Applicants respectfully request that Examiner withdraw all restrictions and rejections with regard to the above- 10 referenced claims in reliance on one or more of the grounds submitted by Applicants.

If there are any outstanding issues that the Examiner feels may be resolved by way of telephone conference, the Examiner is invited to call David W. Carstens at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

The Commissioner is hereby authorized to charge any payments that may be due or credit any overpayments to CARSTENS & CAHOON, LLP Deposit Account 50-0392.

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